SUBJECT: Trip Report - MIMOSA Study
Case 103-2

DATE: March 16, 1966

FROM: J. Wong

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MEMORANDUM FOR FILE

A preview of a study entitled Mission Modes and Systems Analysis (MIMOSA) for Lunar Exploration to be conducted by Lockheed for NASA was presented at MSFC on January 19, 1966.

The three objectives of the study are outlined as follows:

1. The primary objective will be to review and integrate past and current studies into a coordinated evolutionary approach to a lunar exploration program for the 1970-1980 time period.

2. A secondary objective will be the categorizing of a set of standized, mission flexible equipment which can be utilized for a variety of space program objectives.

3. The third objective will be to provide the management level planner with several alternate completely documented lunar exploration program plans.

Study Approach

A program plan for the conduct of the study is shown in Figure 1. The study is a 13-month effort of approximately 52,000 man hours. In addition to the effort to be conducted by Lockheed, support will be provided by several subcontractors. These are shown in Figure 2, the organization chart for the MIMOSA Program. Of the total effort, some 20,000 man hours are subcontracted to these supporting people.

In summary, the effort will be conducted in the following manner:

All previous pertinent programs shall be reviewed and summary data shall be cataloged. This will include (1) Transportation Systems (launch vehicles), (2) Mission Equipment (mobility systems, shelter, ECS, power systems) (3) Scientific Equipment and Experiments (drilling equipment, beacons, etc.). In addition, current study efforts such as

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(NASA-CR-158191) TRIP REPORT: MIMOSA STUDY (Bellcomm, Inc.) 4 p

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being conducted on scientific experiments by NAA, LSSM studies by Bendix, and MFS studies by Bell will be continually monitored and results included.

The data for each item will include operational characteristics, weight, size, operational status and/or development schedule required, and cost. All data will be cataloged by computer methods to be developed by Lockheed.

The final output or the program plan will be developed by computer techniques as the various program constraints are defined. That is, for a given time period and funding level, a typical program plan will be devised to achieve the optimum objectives within the time period, or a maximum scientific mission may be defined within the constraints of development times dictated by a single critical time. This output will essentially be an ordering of all Lunar Exploration Programs.

J. Wong

1021-JW-csh J. Wong

Attachment:
Figure 1 and 2

Copy to
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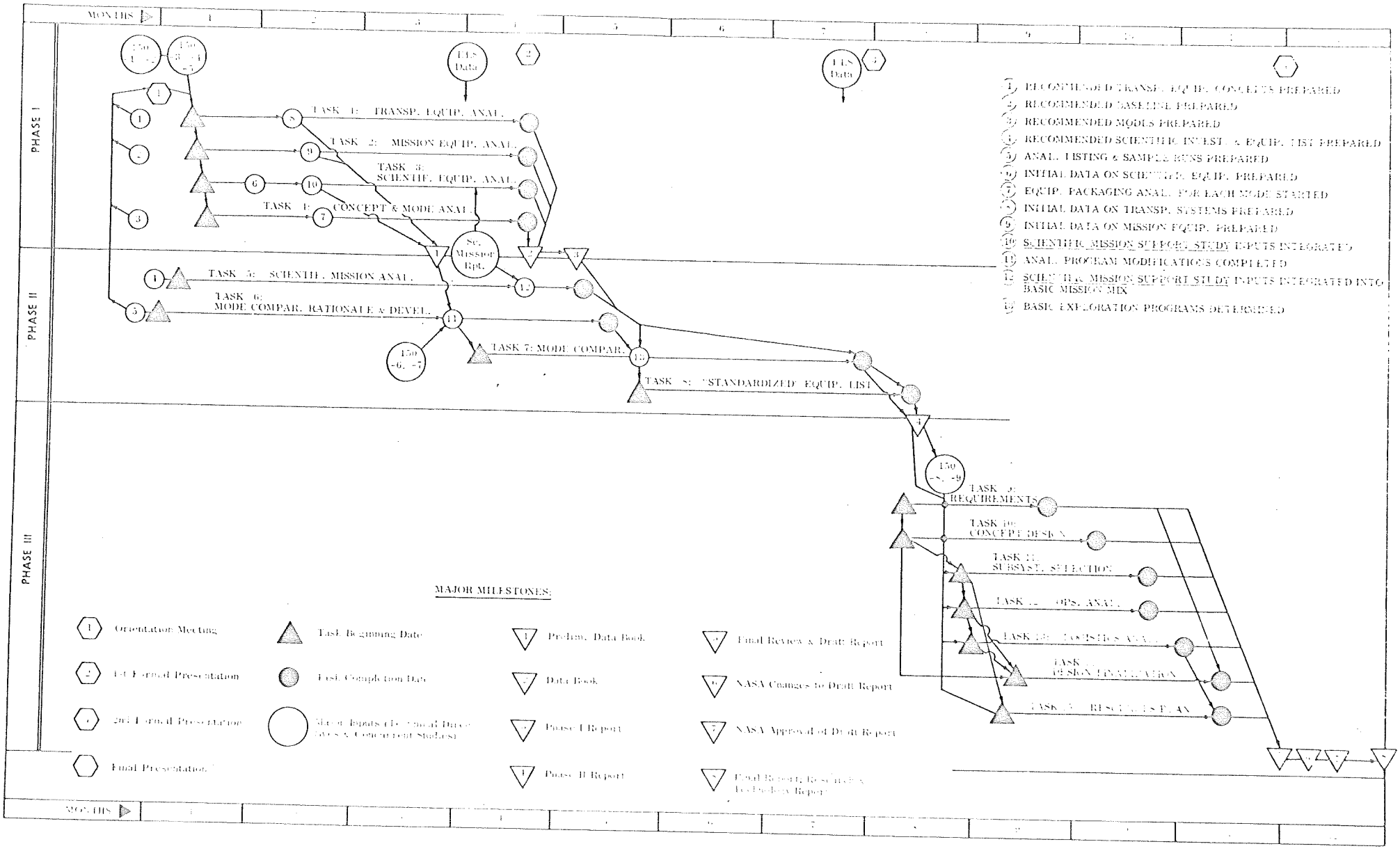
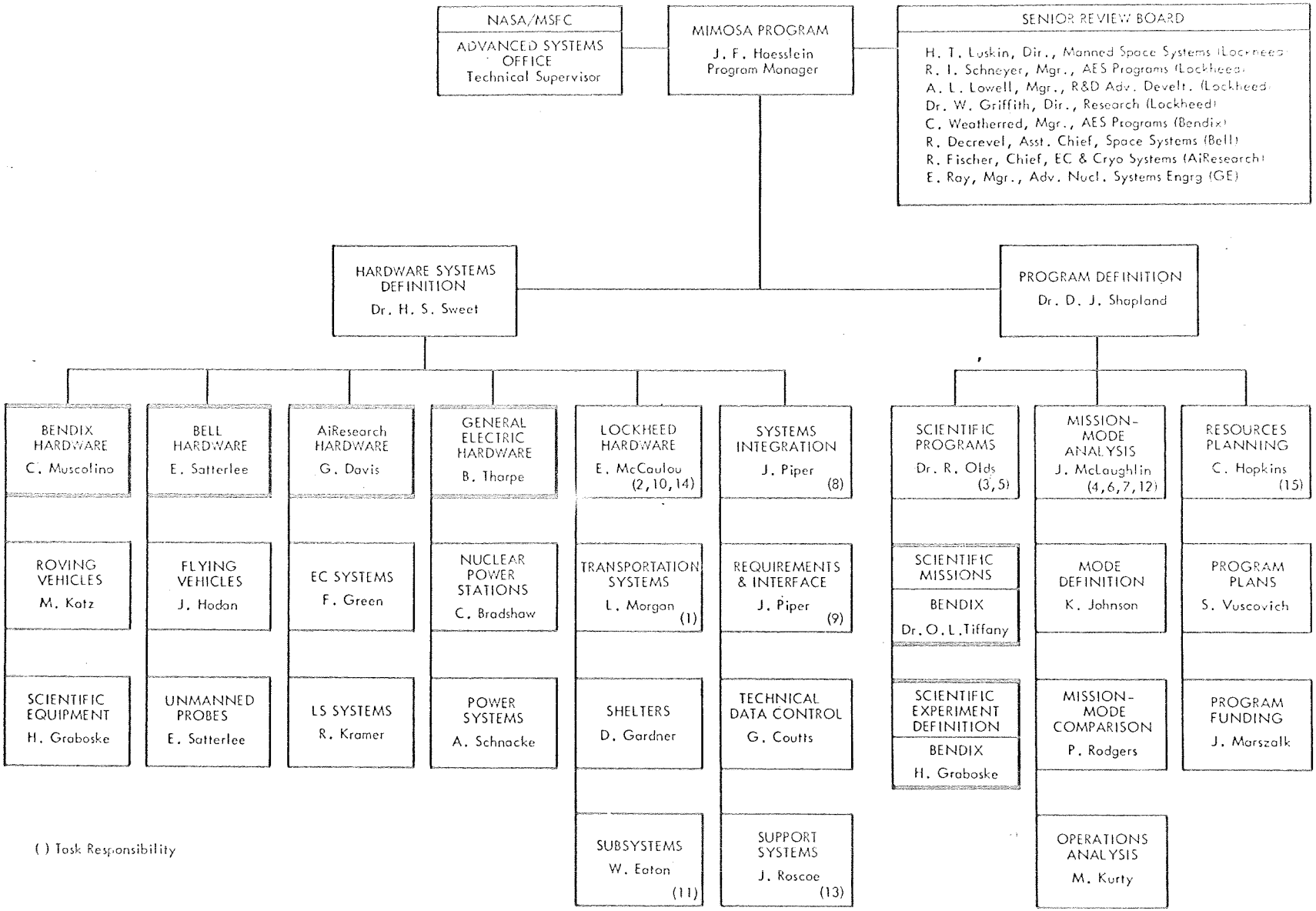

MONTHS
PHASE I
PHASE II
PHASE III
TASK 1: TRANSP. EQUIP. ANAL.
TASK 2: MISSION EQUIP. ANAL.
TASK 3: SCIENTIF. EQUIP. ANAL.
TASK 4: CONCEPT & MODE ANAL.
TASK 5: SCIENTIF. MISSION ANAL.
TASK 6: MODE COMPAR. RATIONALE & DEVEL.
TASK 7: MODE COMPAR.
TASK 8: "STANDARDIZED" EQUIP. LIST
TASK 9: REQUIREMENTS
TASK 10: CONCEPT DESIGN
TASK 11: SUBSYST. SELECTION
TASK 12: OPS. ANAL.
TASK 13: CONFIGURATION ANAL.
TASK 14: CONFIGURATION EVALUATION
TASK 15: RESEARCH PLAN
E.E.S. Data
Sc. Mission Rpt.
MAJOR MILESTONES:
Orientation Meeting
1st Formal Presentation
2nd Formal Presentation
Final Presentation
Task Beginning Date
Est. Completion Date
Major Inputs (Formal Data, Rpts. & Conceptual Studies)
Preliminary Data Book
Data Book
Phase I Report
Phase II Report
Final Review & Draft Report
NASA Changes to Draft Report
NASA Approval of Draft Report
Final Research Results & Technology Report
1. RECOMMENDED TRANSP. EQUIP. CONCEPTS PREPARED
2. RECOMMENDED BASELINE PREPARED
3. RECOMMENDED MODES PREPARED
4. RECOMMENDED SCIENTIFIC INVEST. & EQUIP. LIST PREPARED
5. ANAL. LISTING & SAMPLE RUNS PREPARED
6. INITIAL DATA ON SCIENTIFIC EQUIP. PREPARED
7. EQUIP. PACKAGING ANAL. FOR EACH MODE STARTED
8. INITIAL DATA ON TRANSP. SYSTEMS PREPARED
9. INITIAL DATA ON MISSION EQUIP. PREPARED
10. SCIENTIFIC MISSION SUPPORT STUDY INPUTS INTEGRATED
11. ANAL. PROGRAM MODIFICATIONS COMPLETED
12. SCIENTIFIC MISSION SUPPORT STUDY INPUTS INTEGRATED INTO BASIC MISSION MIX
13. BASIC EXPLORATION PROGRAMS DETERMINED

Study Schedule for MIMOSA Program



MIMOSA Program Organization